INPLASY

Enamel matrix derivative in the treatment of tooth replantation: from biological basis to clinical application

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Data extraction.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202450016

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 May 2024 and was last updated on 05 May 2024.

INTRODUCTION

Review question / Objective Does EMD treatment provide superior clinical periodontal healing compared with conventional therapy without EMD in patients with replanted teeth?

Condition being studied Enamel matrix derivative (EMD) as a biomaterial have been attracting remarkable attention for their application values in the areas of periodontal tissue repair and regeneration. However, the truly effects of EMD-treated in replanted teeth are acquaint scarcely.

METHODS

Participant or population Patients with replanted teeth.

Intervention EMD applied to the root surface of the replanted teeth in the test group.

Comparator Without EMD treated.

Study designs to be included Clinical trial.

Eligibility criteria The inclusion criteria were defined as I) clinical trials in patients with replanted teeth; II) EMD applied to the root surface of the replanted teeth in the test group; and III) describing clinical outcomes of prognosis such as periodontal healing, extraction or survival rate, or the root resorption to assess the effects of EMD used. The exclusion criteria were defined as I) animal and in vitro studies; II) duplicated data; III) clinical trials without control.

Information sources The potential studies were comprehensively searched via the Cochrane

Library, Web of science and the PubMed databases.

Main outcome(s) Clinical outcomes of prognosis such as periodontal healing, extraction or survival rate, or the root resorption to assess the effects of EMD used.

Quality assessment / Risk of bias analysis Newcastle Ottawa scale (NOS).

Strategy of data synthesis STATA statistical software were used to extract and assess the data. RRs with 95% CIs presented the estimated effects for dichotomous outcomes. Cochran's Q statistic and the I2 statistic were performed to estimate between-study heterogeneity, with thresholds of >75%, 25–75% and 50%), and a fixed-effect model was used to pool the outcomes of those studies with lower statistical heterogeneity.

Subgroup analysis None.

Sensitivity analysis Sensitivity analysis were conducted when more than 8 studies included.

Country(ies) involved China.

Keywords Enamel matrix derivative, Replanted teeth, Periodontal healing, Root adsorption, Survival.

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